

Unit Title:

See The USA

Teacher: Santoro

Week: Trimester 2 (5 weeks)

Unit: Earth Sciences – “See the USA”

Course: Science

Hour: Science periods 1,2,4,5,7

Date: Trimester 2 (February 2nd - March 9th)

Target Grade Level: 6th

Learning Target(s):	<p>Unit / Topic: Standard 3: Earth Systems Science – Students know and understand the processes and interactions of Earth’s systems and the structure and dynamics of Earth and other objects in space.</p> <ul style="list-style-type: none">Describe and interpret how Earth’s geologic history and place in space are relevant to our understanding of the processes that have shaped our planet. <p>Evaluate evidence that Earth’s geosphere, atmosphere, hydrosphere, and biosphere interact as a complex system</p> <p>Std. 3.1 - Complex interrelationships exist between earth’s structure and natural processes that over time are both constructive and destructive.</p>
Criteria for Success:	<p>I can gather, analyze, and communicate evidence based on the Earth’s constructive and destructive forces.</p> <p>I can gather, analyze, and communicate evidence that explains the formation of Earth’s surface features.</p>
Progression of Learning:	<p>-In teams of 3-5, students set up Gmail accounts. (This is a unique way of communicating with each team. If students have “team” or individual questions, they can email me.</p> <p>-Teams set up team edublogs.</p> <p>-For the first five states traveled through, group members observe and identify land structures (ex: mountains, plains, volcanoes, rivers, lakes, ocean coasts, forests, etc)... in each of the five states. They also determine what forces have caused the landscape to appear the way it does today.</p> <p>-Group members research about landmarks in the state and how weathering and erosion have affected those landmarks. (ex: mountains, lakes, valleys, Bryce Canyon, Arches, Statue of Liberty...)</p> <p>-Group members will research plate tectonics, and determine which plate the United States sits on top of.</p> <p>-Students will identify their state as a “costal region” or an “interior region” by looking at a map of the United States.</p> <p>-Each student will update a travel log on their group’s blog for five states that they travel through. For five weeks, students will have a science table that will be completed on their edublog. They will use information discussed in class, textbook, and notes to identify specific Earth Systems vocabulary. They will use websites, from my class science website; http://santorosciencerocks.pbworks.com/w/page/31756322/Santoro-Science-Rocks!, specific to each state to identify features of land in each state that they travel through. Students will have a different table to complete for each state that they travel through.</p> <p>-Students will also mark territory on googlemaps and link these pages to their edublogs. (They will do this in social studies)</p> <p>-All of this information, along with the name of each team can be found at http://seetheusa.edublogs.org/.</p> <p>-As we move into Chemistry, there may be related vocabulary words for them to incorporate into their weekly tables.</p> <p>-Time to Wrap it up – end of unit essay. Students will blog about how the landscape changed from</p>

state 1-5.

-This was a collaborative project with social studies where students explored economics, as well as cultures throughout their travels.

Content Area Standards, Essential Learnings, and Evidence Outcomes

Unit / Topic: Standard 3: Earth

Systems Science – Students know and understand the processes and interactions of Earth’s systems and the structure and dynamics of Earth and other objects in space.

- **Describe and interpret how Earth’s geologic history and place in space are relevant to our understanding of the processes that have shaped our planet.**

Evaluate evidence that Earth’s geosphere, atmosphere, hydrosphere, and biosphere interact as a complex system.

– Gather, analyze, and communicate an evidence-based explanation for the complex interaction between Earth’s constructive and destructive forces.
- Gather, analyze and communicate evidence from text and other sources that explains the formation of Earth’s surface features.

21st Century Skills and Abilities

- ☐ Collaboration and Teamwork
 - ☐ Critical Thinking, Reasoning, and Problem Solving
 - ☐ Invention, Innovation, and Creativity
 - ☐ Self-Direction
 - ☐ Information Literacy
 - ☐ Global Awareness
-
- Inquiry Questions
 - Relevance and Application
 - Nature of Discipline

ISTE NET-S, ITEE, or L4L Standards Addressed

1. Creativity and Innovation
Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology. Students:
 - a. apply existing knowledge to generate new ideas, products, or processes.
 - b. Create original works as a means of personal or group expression.
 - c. Use models and simulations to explore complex systems and issues.
 - d. Identify trends and forecast possibilities.
2. Communication and Collaboration
Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of other students.
 - a. interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.
 - b. Communicate information and ideas effectively to multiple audiences using a variety of media and formats.
 - d. contribute to project teams to produce original works or solve problems.

Standard 3: Research and Information Fluency- Students apply digital tools to gather, evaluate, and use information.

- a. Plan strategies to guide inquiry.
- b. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.
- c. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks.
- d. Process data and report results.

Standard 4: Critical Thinking, Problem Solving, and Decision Making- Students

use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

- a. Identify and define authentic problems and significant questions for investigation.
- b. Plan and manage activities to develop a solution or complete a project.
- c. Collect and analyze data to identify solutions and/or make informed decisions.
- d. Use multiple processes and diverse perspectives to explore alternative solutions.

Standard 5: Digital Citizenship- Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

- a. Advocate and practice safe, legal, and responsible use of information and technology.
- b. Exhibit a positive attitude towards using technology that supports collaboration, learning, and productivity.
- c. Demonstrates personal responsibility for lifelong learning.
- d. Exhibits leadership for digital citizenship.

6. Technology Operations and Concepts

Students demonstrate a sound understanding of technology concepts, systems, and operations. Students:

- a. Understand and use technology systems.
- b. Select and use applications effectively and productively.
- c. Troubleshoot systems and applications.
- d. Transfer current knowledge to learning of new technologies.

Pre-Assessment Summary

Earth Systems quizzes and test. I will do these before they begin posting on their blogs so that they have mastered constructive and destructive forces, and evidence of earth's surface features. Students will also have a lot of practice time in the computer labs to practice going to my website to find information on their state websites to put in their science tables each week.

<http://santoroscience.rocks.pbworks.com/w/page/31756322/Santoro-Science-Rocks!>

Post-Assessment Summary

-Final blog complete:

-Each student has a travel log from each week.
-Each group will log their routes on googlemaps and record landmarks in each state. (Social Studies)

-Time to Wrap it up (travel essay complete):

-Individuals will write a travel essay summarizing their groups travels for five states, and post these on their edublogs.

Summary of Differentiation Strategies and Students

Individual differentiation for each kid will be included in the assignments. Some students will receive more time to complete the weekly edublog updates.

Students in my fourth period class will have extra class/lab time to work together on these edublogs to complete them for each week.

Summary of Research Based Instruction Strategies

I believe that blogging helps students learn to communicate in other ways besides writing papers and oral presentations. Blogging helps students to work together outside of class, and collaborate ideas.

During the 21st century, students are more engaged with technology then ever before. Technology is a part of their everyday world, and by including it in education, students will better connect with the content.

According to the article, "Using Technology to Enhance Engaged Learning for At-Risk Student," technology based learning helps students to achieve higher level thinking and skills. Technology based instruction, also allows students to get more meaningful lessons. When students are engaged, they will retain more from the lesson and learning. Technology is a huge part of our student's lives, and it is important that we use types of technology that can help them achieve these higher order skills that can help them in the real world.

During my lesson and unit plans, I was able to use several different technologies to incorporate my projects and ideas into.

Citation:

"Using Technology to Enhance Engaged Learning for At-Risk Students." Web. 19 Jan. 2011.
<<http://www.ncrel.org/sdrs/areas/issues/students/atrisk/at400.htm>>.

Technology Materials and Resources

Gmail accounts for each team

Edublog accounts for each team

<http://seetheusa.edublogs.org/>

<http://santorosciencerocks.pbworks.com/w/page/31756322/Santoro-Science-Rocks!>

<http://easybib.com/>

The ISTE NETS and Performance Indicators for Teachers (NETS – T)

1. Facilitate and Inspire Student Learning and Creativity
Teachers use their knowledge of subject matter, teaching and learning, and technology to facilitate experiences that advance student learning, creativity, and innovation in both face-to-face and virtual environments. Teachers:
 - a. promote, support, and model creative and innovative thinking and inventiveness.
 - b. Engage students in exploring real-world issues and solving authentic problems using digital tools and resources.
 - c. Promote student reflection using collaborative tools to reveal and clarify students' conceptual understanding and thinking, planning, and creative processes.

Other Materials and Resources

Padilla, Michael J.; Martha Cyr; and Ioannis Miaoulis. *Inside Earth*. Boston, MA: Pearson Prentice Hall, 2007. Print.

Holtzclaw, Fred; Jones, Linda J.; Miller, Steve. *Environmental Science*. Upper Saddle River, NJ: Pearson Prentice Hall, 2002. Print.

Padilla, Michael J., Martha Cyr, and Ioannis Miaoulis. *Prentice Hall Science Explorer: Earth's Changing Surface*. Needham, MA: Pearson Prentice Hall, 2005. Print.

Padilla, Michael J., Martha Cyr, Ioannis Miaoulis, John G. Little, and Steve Miller. *Chemical Building Blocks*. Needham, MA: Pearson Prentice Hall, 2007. Print.

- d. Model collaborative knowledge construction by engaging in learning with students, colleagues, and others in face-to-face and virtual environments.
- 2. Design and Develop Digital-Age Learning Experiences and Assessments.
Teachers design, develop, and evaluate authentic learning experiences and assessments incorporating contemporary tools and resources to maximize content learning in context and to develop the knowledge, skills, and attitudes identified in the NETS – S Teachers:
 - a. design or adapt relevant learning experiences that incorporate digital tools and resources to promote students learning and creativity.
 - b. Develop technology-enriched learning environments that enable all students to pursue their individual curiosities and become active participants in setting their own educational goals, managing their own learning, and assessing their own progress.
 - c. Customize and personalize learning activities to address students' diverse learning styles, working strategies, and abilities using digital tools and resources.
 - d. provide students with multiple and varied formative and summative assessments aligned with content and technology standards and use resulting data to inform learning and teaching.
- 3. Model Digital-Age Work and Learning
Teachers exhibit knowledge, skills, and work processes representative of an innovative professional in a global and digital society. Teachers:
 - a. Demonstrate fluency in technology systems and the transfer of current knowledge to new technologies and situations.
 - b. Collaborate with students, peers, parents, and community members using digital tools and resources to support students success and innovation.
 - c. Communicate relevant information and ideas effectively to students, parents, and peers using a variety of digital-age media and formats.
 - d. Model and facilitate effective use of current and emerging digital tools to locate, analyze, evaluate, and use information resources to support research and learning.
- 4. Promote and Model Digital Citizenship and Responsibility
Teachers understand logical and global societal issues and responsibilities in an evolving digital culture and exhibit legal and ethical behavior in their professional practices. Teachers:
 - a. Advocate, model, and teach safe, legal, and ethical use of digital information and technology, including respect for copyright, intellectual property, and the appropriate documentation of sources.
 - b. Address the diverse needs of all learners by using learner-centered strategies and providing equitable access to appropriate digital tools and resources.
- 5. Engage in Professional Growth and Leadership
Teachers continuously improve their professional practice, model lifelong learning, and exhibit leadership in their school and professional community by promoting and demonstrating the effective use of digital tools and resources. Teachers:
 - a. Participate in local and global learning communities to explore creative applications of technology to improve student learning.
 - b. Exhibit leadership by demonstrating a vision of technology

infusion, participation in shared decision making and community building, and developing the leadership and technology skills of others.

- c. Evaluate and reflect on current research and professional practices on a regular basis to make effective use of existing and emerging digital tools and resources in support of student learning.
- d. Contribute to the effectiveness, vitality, and self-renewal of the teaching profession and of their school and community.

Student Self-Assessment Strategies

Students follow the directions, which acts as a rubric for five weeks as they travel through five states. Students will observe the landscape in each state and write their learning's down on a science table to post on their edublogs.

Student Goal Setting Strategies

Students will observe completed travel blogs, as well as completed assignments and set their goals according to how they want their blogs to look. They will also set individual goals on how they will complete their edublog entries for five states if they don't have computers at home. Students will be have the opportunity to brainstorm with each other to come up with places they can go to update their five science tables.

Tier 1 Interventions (Universal) and Students

-Familiarize students with the following technology tools:

Gmail

Edublog

<http://santorosciencerocks.pbworks.com/w/page/31756322/Santoro-Science-Rocks!>

<http://seetheusa.edublogs.org/>

<http://easybib.com/>

Strategically Planned Questions

Q: How can you find information for the each week science table?

A:

<http://santorosciencerocks.pbworks.com/w/page/31756322/Santoro-Science-Rocks!>

Q: Where can you find directions for completing each week's science assignments for five of your states?

A:

<http://santorosciencerocks.pbworks.com/w/page/31756322/Santoro-Science-Rocks!>

Q: How do you site the sources that you use?

A. <http://easybib.com/>

Tier 2 Interventions (Targeted) and Students

Some students preferred to write their own bibliographies. We practiced writing bibliographies in class, so some students choose to do this, while other students chose to use <http://easybib.com/>. Either of those choices worked for this assignment.

I assigned specific students to each of these when needed.

Vocabulary

Erosion

Weathering

Deposition

Landscape

Land features

Rivers

Delta

Meander

Tectonic plates

Coastal region

Interior region

Gmail

Edublog

Website

Site your source

Tier 3 Interventions (Intensive) and Students

ELL Strategies

Extra class time was needed for specific individuals, and they received extra help and instruction. For certain individuals, the amount of work assigned for each assignment was minimized.

I used written instruction/directions on paper as well as on my website
<http://santorosciencerocks.pbworks.com/w/page/31756322/Santoro-Science-Rocks!>
I also presented the directions orally for each assignment. Depending on the student, extra time was given to complete each assignment.

Activities and Lesson Procedures

Pacing

Motivation (hook)	Have you ever created a travel blog? Travel blogs are great ways for people to communicate about places that they have been. In science, we will communicate with our teammates to talk about places we are going, and scientific features that we see along the way. Lets take a trip across the United States together.	Day 1: 10 Min
Introduction	Explore Edublog to become familiar. Set up Gmail accounts Set up team Edublogs Navigate around my website; - http://santorosciencerocks.pbworks.com/w/page/31756322/Santoro-Science-Rocks! Go over "See the USA" directions to address the five states traveled through, and illustrate communication through blogs.	Day 1: 30 Min
Direct Teaching	-The website below outlines the processes and steps associated with this unit project. - http://santorosciencerocks.pbworks.com/w/page/31756322/Santoro-Science-Rocks! -Students learned about the following before, and in conjunction with this project.	Day 1: 10 Min Day 2: 10 Min
Guided Practice	-For the first and second weeks, students update science blogs in the state that they are traveling through. We go step by step as a class through the websites, state information, and examples on setting up their weekly science tables. -Students go to - http://santorosciencerocks.pbworks.com/w/page/31756322/Santoro-Science-Rocks! For information, and examples. -Students have team Gmail accounts that are used as a communication tool. Science tables, and specific team and individual information is sent to these accounts.	Week 1-2
Feedback	-Students receive feedback each Friday with updates as to which Edublogs have been posted. Each teammate posts their own science table, which is checked so that students have feedback and can update or complete as needed.	Weeks 1-5
Independent Practice	Weeks three-five, students are given direction sheets, and emailed the science tables for each week. They know how to navigate around the websites given to use.	Weeks 3-5
Closure	-Students write a description about what they learned about the landscape in each of the five states that they traveled through and blogged about. Students are given specific vocabulary to use to complete this description. These end of unit descriptions are posted on their Edublogs.	

